



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,219	04/05/2006	Nigel-Philip Cox	2002P14335WOUS	6983
7590 Siemens Corporation Intellectual Property Department 170 Wood Avenue South Iselin, NJ 08830		02/27/2008	EXAMINER CARRILLO, BIBI SHARDAN	
			ART UNIT 1792	PAPER NUMBER
			MAIL DATE 02/27/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/531,219

Applicant(s)

COX ET AL.

Examiner

Sharidan Carrillo

Art Unit

1792

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/14/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-20 and 22-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-20 and 22-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 13-20 and 22-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

3. The limitations of "in addition to any oxygen donor already intrinsically present in the molten bath" constitutes new matter, not supported by the specification as originally filed.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 13-20 and 22-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 is indefinite because it is unclear what is meant by "in addition to any oxygen donor already intrinsically present in the molten bath". Specifically, this limitation is not a positive recitation and therefore it is unclear whether a) oxygen donor

Art Unit: 1792

is present in the bath and additional oxygen donor is added or whether b) the bath, may contain oxygen donor, and oxygen donor is added to provide a predetermined and operative boost. Furthermore, at what point is the oxygen donor intrinsically added to the molten bath? Claim 13 is indefinite because it is unclear how the metal M can be Cr. If this is the case, the formula reads "CrCrAlY". Why would Cr be recited twice in the claimed formula?

Claims 22-23 are indefinite because they are dependent on cancelled claim 21. Claims 22-23 are further indefinite because it is unclear whether "the oxygen donor" refers to "any oxygen donor already intrinsically present in the molten bath" or the "sufficient amount of any oxygen donor".

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 13, 15-20, 23 and 25-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Wustman et al. (US2005/0161439).

Wustman teaches removing an aluminide coating from a turbine (paragraph 33) comprising treating the turbine component in a salt bath comprising NaOH and KOH (paragraph 52), treating the substrate with an acid comprising nitric acid. In paragraph 6, Wustman teaches that it is well known to strip the coating from the substrate with combinations of acids including nitric acid, phosphoric acid. Re claim 13, Wustman teaches a nickel-based superalloy which is coated with an aluminide bond coating and a yttria-stabilized zirconia thermal barrier top coat (paragraph 76). In paragraph 77, Wustman teaches performing a mechanical operation to remove the thermal barrier coating. Specifically, Wustman teaches grit blasting the blade to remove the thermal barrier coating, treating the turbine component with a caustic bath (KOH) followed by treating with an acid bath of nitric acid solution (paragraph 78). Paragraph 52 teaches the caustic basic includes NaOH, KOH and mixtures thereof. Paragraph 6 teaches stripping the aluminide with various combinations of acids including nitric and phosphoric acid. The limitation of adding an oxygen donor to the salt bath is met since Wustman teaches an aqueous caustic solution and water inherently serves as an oxygen donor. It is well known in the art, as evidenced by Markarian et al. (4155154, col. 3, lines 9-11) that water serves as a oxygen donor. Re the bonding layer, refer to paragraph 3. Re the molten bath, refer to paragraph 53. The limitations of "the combination of steps resulting in the removal of the thermal barrier coating and bonding layer" are met since Wustman teaches grit blasting to remove the ceramic thermal barrier coating and treating with solutions of caustic and acid to remove the aluminide bond coating. Re claim 15, paragraph 78 teaches two acid baths, a first acid bath

comprising a cold nitric acid solution an a second acid bath comprising 30% by weight nitric acid and about 0.3% by weight Activol wetting agent. Re claim 16, refer to paragraph 35 which teaches HCl can be added to the nitric acid bath. Re claim 17, refer to paragraph 6. Re claim 18, refer to paragraph 49. Re claims 19 and 20, refer to paragraphs 46 and 77. Additionally grit blasting would inherently produce an aluminide coating having smaller particles, thereby the limitations of grinding the turbine component would inherently be met. Re claim 20, refer to paragraph 78 which teaches grinding. Re claim 23, the removal of aluminide (i.e. metal oxide) into the caustic bath reads on applicant's claimed limitation. Re claim 25, Wustman teaches rinsing between chemical treatment steps. Re claim 26, refer to paragraph 36.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 1792

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 14 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wustman et al. (US2005/0161439).

Re claim 14, Wustman fails to teach the ratio of KOH to NaOH. Wustman teaches using a combination of KOH and NaOH. In the absence of a showing of criticality, it would have been within the level of the skilled artisan to adjust the concentration of the bases as needed in order to effectively strip the aluminide coating from the substrate surface. Re claim 24, Wustman fails to teach drying. It would have been within the level of the skilled artisan to dry the substrate in order to remove any solvent residue and or water stain prior to performing additional steps such as recoating.

11. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wustman et al. (US2005/0161439) in view of Fusnocht (3532591).

Wustman fails to teach the oxygen donor of Na₂O. However, Wustman teaches an aqueous solution of NaOH. Fusnocht teaches that reagent or technical grade NaOH has normal impurities which include Na₂O (col. 2, lines 24-27). Since Wustman teaches an NaOH bath and Fusnocht teaches NaOH includes impurities such as Na₂O, one would reasonably expect the NaOH bath of Wustman to also include Na₂O impurities, thereby meeting the limitations of claim 22.

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 13-20 and 22-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4-10, and 13 of copending Application No. 11/502487 in view of Wustman (2005/0161439) and Fosnocht (3532591). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are directed to removing a layer by treating with a salt bath containing an oxygen donor and treating with an acid bath. The '487 application teaches the invention substantially as claimed with the exception of the bonding layer, the molten salt bath of sodium hydroxide and potassium hydroxide, and the addition of an oxygen donor. Wustman teaches removing an aluminide coating comprising $M\text{CrAl}(Y)$, where M is Ni, Co, Fe using an aqueous molten bath of NaOH, KOH. Re the oxygen donor, the water in the aqueous solution functions as an oxygen

donor. Furthermore, in view of the indefiniteness, the limitations are met by Wustman. It would have been obvious to the skilled artisan to have modified the method of '487 to include the aluminide composition of MCrAlY, as taught by Wustman, which is conventionally used for coating the turbine component. It would have been obvious to the skilled artisan to have modified the method of '487, to include aqueous molten bath of caustic solution, as taught by Wustman, for purposes of removing the aluminide layer from the turbine component.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

14. The rejection of the claims, under 112, second paragraph is maintained for the reasons set forth above.
15. Applicant argues that the prior art of Wustman fails to teach the claimed bonding layer of MCrAlY, wherein M is selected from the group consisting of Fe, Ni, Cr. Applicant is directed to paragraph 3.
16. Applicant argues that Wustman fails to teach a molten bath formed from two salts. Applicant's arguments are unpersuasive, paragraph 52 clearly teaches that the caustic material can be a combination of KOH and NaOH, and paragraph 53 further teaches that the caustic bath can be in the form of a molten bath. Given the teachings of paragraphs 52-53, Wustman teaches forming a molten bath comprising a plurality of caustics which include the combination of KOH and NaOH.

17. Applicant argues that Wustman fails to teach the limitation of "adding, in addition to any oxygen donor already intrinsically present in the molten bath, a sufficient amount of an oxygen donor". Applicant's arguments are unpersuasive in view of the indefiniteness as described above. Furthermore, treating with an aqueous solution having NaOH, reads on applicant's claim language, since the impurity "Na₂O" reads on oxygen donor intrinsically present" and water in the aqueous caustic solution reads on applicant's claim of a sufficient amount of an oxygen donor added to the salt bath. In reference to applicant's argument that water is not an oxygen donor, the examiner has provided the prior art of Markarian et al., as a teaching reference to show that water inherently serves as an oxygen donor.

18. The double patenting rejection is maintained since applicant has not filed a Terminal Disclaimer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharidan Carrillo whose telephone number is 571-272-1297. The examiner can normally be reached on M-W 6:30-4:00pm, alternating Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sharidan Carrillo/
Primary Examiner, Art Unit 1792

bsc